

## CLAIMS

### WHAT IS CLAIMED:

1        1.        A tensioner for facilitating the movement of a plate of a bone compression device, the plate  
2        having a pre-formed shape and at least one elastic shape that substantially corresponds to at least one  
3        bone radius of curvature of at least one bone, the tensioner comprising:

4                a shaft,

5                a base, and

6                at least two arms in communication with the shaft, the at least two arms adapted to be  
7        releasably secured to the plate,

8                the shaft having a shaft first end, a shaft second end, a shaft longitudinal axis, and at  
9        least one screw groove disposed along the shaft longitudinal axis to facilitate the movement of the  
10       at least two arms along the longitudinal axis of the shaft, the shaft second end being connected to  
11       the base.

1        2.        The tensioner of claim 1, further comprising at least three arms adapted to be releasably  
2        secured to the plate.

1        3.        The tensioner of claim 1, further comprising at least four arms adapted to be releasably  
2        secured to the plate.

1        4.        The tensioner of claim 1, wherein at least two of the at least two arms of the tensioner include  
2        an arm end, the arm end having a shape that permits insertion of the arm end into a slot disposed  
3        along the plate.

1        5.        The tensioner of claim 1, wherein at least two of the at least two arms of the tensioner include  
2        an arm end, the arm end having a hook.

1 6. The tensioner of claim 1, wherein at least two of the at least two arms of the tensioner include  
2 an arm end, the arm end having a spatula member.

1 7. The tensioner of claim 1, wherein at least two of the at least two arms of the tensioner are  
2 operatively associated with an arm connector by a hinge member.

1 8. The tensioner of claim 1, wherein the shaft second end is rotatably connected to the base such  
2 that the shaft is permitted to rotate and the base is permitted to remain stationary.

1 9. The tensioner of claim 1, wherein the shaft of the tensioner is rotatably connected to the base  
2 by a ball joint.

1 10. The tensioner of claim 1, wherein the shaft of the tensioner is rotatably connected to the base  
2 by a base shaft disposed within a cavity of the shaft.

1 11. A tensioner for facilitating the movement of a plate of a bone compression device, the plate  
2 having a pre-formed shape and at least one elastic shape that substantially corresponds to at least one  
3 bone radius of curvature of at least one bone, the tensioner comprising:

4 a splint having a first end and a second end and at least two fastening members, wherein at  
5 least one of the at least two fastening members is adapted to be releasably secured to the splint.

1 12. The tensioner of claim 11, wherein each of the at least two fastening members is adapted to  
2 be releasably secured to the splint.

1 13. A tensioner for facilitating the movement of a plate of a bone compression device, the plate  
2 having a pre-formed shape and at least one elastic shape that substantially corresponds to at least one  
3 bone radius of curvature of at least one bone, the tensioner comprising:

4 a shaft,  
5 a base, and

6 at least two arms in communication with the shaft, the at least two arms adapted to be  
7 releasably secured to the plate,

8 the shaft having a shaft first end, a shaft second end, a shaft longitudinal axis, an inner  
9 shaft member slidably engaged with an outer shaft member, and at least one arm connector support  
10 member disposed along the shaft longitudinal axis to maintain the at least two arms at a position  
11 along the longitudinal axis of the shaft, the shaft second end being connected to the base.

1 14. The tensioner of claim 13, wherein the shaft outer member includes a shaft flange.

1 15. The tensioner of claim 14, wherein each of the at least one arm connector support members  
2 are movable support members and the inner shaft member includes at least one inner shaft aperture  
3 corresponding to each of the at least one movable support members.

1 16. A bone compression device for placing in communication with at least one bone having at  
2 least one bone radius of curvature, the bone compression device comprising a plate having a pre-  
3 formed shape, the pre-formed shape having at least one pre-formed radius of curvature  
4 corresponding to each of the at least one bone radii of curvature, each of the at least one pre-formed  
5 radii of curvature being less than each of the corresponding at least one bone radii of curvature.

1 17. The bone compression device of claim 16, wherein the plate includes a deformed shape and  
2 at least one elastic shape between the pre-formed shape and the deformed shape, the deformed shape  
3 having a deformed radius of curvature greater than at least one of the bone radii of curvature, and  
4 at least one of the at least one elastic shapes having an elastic radius of curvature that substantially  
5 corresponds to at least one of the at least one bone radii of curvature.

1 18. The bone compression device of claim 17, wherein the plate includes a first end, a second  
2 end, and at least two attachment members.

1 19. The bone compression device of claim 18, wherein at least one of the at least two attachment  
2 members is a hole.

1 20. The bone compression device of claim 18, wherein at least one of the at least two attachment  
2 members is a loop.

1 21. The bone compression device of claim 18, wherein at least one of the two attachment  
2 members is disposed at the first end of the plate and another of the at least two attachment members  
3 is disposed at the second end of the plate.

1 22. The bone compression device of claim 21, wherein at least one of the at least two attachment  
2 members is a hole.

1 23. The bone compression device of claim 21, wherein at least one of the at least two attachment  
2 members is a loop.

1 24. The bone compression device of claim 16, wherein the plate includes a first end, a second  
2 end, and at least two attachment members.

1 25. The bone compression device of claim 16, wherein the plate includes a length having a  
2 longitudinal axis and a width having a lateral axis, at least one of the at least one pre-formed radii  
3 of curvature being disposed along a portion of the length.

1 26. The bone compression device of claim 16, wherein the plate includes a length having a  
2 longitudinal axis and a width having a lateral axis, at least one of the at least one pre-formed radii  
3 of curvature being disposed along a portion of the width.

1 27. The bone compression device of claim 16, wherein the plate includes a first end, a second  
2 end, at least two fastener holes disposed near the first end, and at least two fastener holes disposed  
3 near the second end.

1 28. A bone compression system for placing in communication with at least one bone having at  
2 least one bone radius of curvature, the bone compression system comprising:

3 a plate having a first end, a second end, a pre-formed shape, a deformed shape, and at least  
4 one elastic shape between the pre-formed shape and the deformed shape, the pre-formed shape  
5 having at least one pre-formed radius of curvature wherein at least one of the at least one pre-formed  
6 radii of curvature is less than at least one of the at least one bone radii of curvature, the deformed  
7 shape having a deformed radius of curvature greater than at least one of the at least one bone radii  
8 of curvature, and at least one of the at least one elastic shapes having an elastic radius of curvature  
9 that substantially corresponds to at least one of the at least one bone radii of curvature; and

10 a tensioner for facilitating the movement of the plate from the pre-formed shape to the at least  
11 one elastic shape that substantially corresponds to at least one of the at least one bone radii of  
12 curvature, the tensioner including a shaft, a base, and at least two arms adapted to be releasably  
13 secured to the plate, the shaft having a shaft first end, a shaft second end, a shaft longitudinal axis,  
14 and at least one screw groove disposed along the shaft longitudinal axis to facilitate the movement  
15 of the at least two arms along the longitudinal axis of the shaft, the shaft second end being connected  
16 to the base.

1 29. The bone compression system of claim 28, wherein the first and second attachment members  
2 of the plate are slots, the first slot being disposed at the first end of the plate and the second slot  
3 being disposed at the second end of the plate.

1 30. The bone compression system of claim 29, wherein at least two of the at least two arms of  
2 the tensioner include an arm end, the arm end having a shape that permits insertion of the arm ends  
3 into the first and second slots.

1 31. The bone compression system of claim 28, wherein the first and second attachment members  
2 of the plate are loops, the first loop being disposed at the first end of the plate and the second loop  
3 being disposed at the second end of the plate.

1 32. The bone compression system of claim 31, wherein at least two of the at least two arms of  
2 the tensioner include an arm end, the arm end having a hook that permits insertion of the arm end  
3 into the first and second loops.

1 33. The bone compression system of claim 28, wherein at least two of the at least two arms of  
2 the tensioner include an arm end, the arm end having a spatula member.

1 34. The bone compression system of claim 28, wherein at least two of the at least two arms of  
2 the tensioner are operatively associated with an arm connector by a hinge member.

1 35. The bone compression system of claim 28, wherein the shaft second end is rotatably  
2 connected to the base such that the shaft is permitted to rotate and the base is permitted to remain  
3 stationary.

1 36. The bone compression system of claim 35, wherein the shaft of the tensioner is rotatably  
2 connected to the base by a ball joint.

1 37. The bone compression system of claim 35, wherein the shaft of the tensioner is rotatably  
2 connected to the base by a base shaft disposed within a cavity of the shaft.

1 38. The bone compression system of claim 28, wherein the plate includes a length having a  
2 longitudinal axis and a width having a lateral axis, the pre-formed radius of curvature and the at least  
3 one elastic radius of curvature being disposed along the length.

- 1 39. The bone compression system of claim 28, wherein the plate includes a length having a
- 2 longitudinal axis and a width having a lateral axis, the pre-formed radius of curvature and the at least
- 3 one elastic radius of curvature being disposed along the width.